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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,042	03/05/2001	Branden Clark Bickley	016295.0662	2780

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EXAMINER

SHECHTMAN, SEAN P

ART UNIT	PAPER NUMBER
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2125

20

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/800,042

Applicant(s)

BICKLEY ET AL.

Examiner

Sean P. Shechtman

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-9,12-16 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-9,12-16 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 14.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1, 2, 4, 6-9, 12-16, and 18-21 are presented for examination. Claims 3, 5, 10, 11, and 17 have been cancelled. Claims 1, 8, and 15 have been amended to include new claim limitations.

Oath/Declaration

2. Objection withdrawn due to the corrected declaration filed December 31st 2003.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the display and/or user interface with real-time operating status information of the equipment indicating whether the equipment is fully functional or inoperable must be shown or the feature(s) canceled from the claim(s). No new matter should be entered (See independent claims 1, 8, and 15).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

Art Unit: 2125

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

Newly amended claim 1 is directed toward the remote monitoring system determining whether an order ship criteria has been fulfilled. Newly amended claims 1, 8, and 15 are directed toward a simulator operable to dynamically allocate or reallocate resources based on an error or inoperability associated with the equipment. Claims 1, 8, and 15 are also directed toward displaying status information indicating if equipment is fully functional or inoperable. The abstract fails to disclose any of the above limitations, therefore, examiner respectfully suggests amending the abstract to better reflect these independent claims.

Claim Objections

5. Objections withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4, 6-9, 12-16, and 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2125

6. Referring to claim 1, lines 18-20, it is unclear whether or not the simulator actually simulates the dynamic allocation of resources based on an error associated with the one or more pieces of equipment, or if the simulator dynamically allocates resources based on an error associated with the one or more pieces of equipment.

7. Referring to claims 8 and 15, it is unclear what is "based on the real-time data on operating status", the determination of an operating status of equipment or a ship criteria (See figures 4 and 5, elements 304-405 and 503-505 of the instant specification).

8. Claim 8 recites the limitation "the allocation of resources" in line 17. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 15 recites the limitation "the allocation of resources" in the 4th line from the bottom. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 15 recites the limitation "the error" in the last line. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, it will be assumed that "the error" is "the inoperability of one or more pieces of equipment".

11. Claim 16 is directed toward determining if an error has occurred, however, claim 15, from which claim 16 depends, is directed toward reallocating the resources in response to the equipment encountering the error. Examiner respectfully submits that it is unclear how the reallocation of resources can occur in response to the equipment encountering the error when the error has not yet been determined. The same holds for claim 19.

12. The term "relative" in claims 8 and 15 is a relative term which renders the claim indefinite. The term "relative" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be

Art Unit: 2125

reasonably appraised of the scope of the invention. Examiner respectfully submits that the determination of an operating status of equipment has been rendered indefinite by the use of the term relative. See *Ex parte Oetiker*, 23 USPQ 2d 641 (Bd. PA&I. 1992). The phrases “relatively shallow”, “of the order of”, “the order of about 5 mm”, and “substantial portion” were held to be indefinite because the specification lacked some standard for measuring the degree intended and, therefore, properly rejected as indefinite under 112(2).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 1, 2, 4, 6-9, 14-16, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,336,053 to Beatty in view of U.S. Pat. No. 5,216,593 to Dietrich.

Referring to claims 1, 6, 8, and 15, Beatty discloses a system, method and computer product, for monitoring resources within a build to order manufacturing facility (Col. 1, lines 7-9; Col. 43, lines 7-10) comprising:

a remote monitoring system coupled a piece of equipment within the manufacturing facility (Fig. 1; Col. 5, line 10 – Col. 6, line 65), said piece of equipment operable to produce build to order products (Col. 43, lines 7-10; Col. 16, lines 29-67);

the remote monitoring system operable to determine an operating status of the piece of equipment relative to a ship criteria associated with producing the build to order products (Col. 19, line 8 – Col. 22, line 10; Col. 22, line 57 – Col. 23, line 4);

said remote monitoring system operable to consolidate real-time information relating to the operating status; and the remote monitoring system is communicatively coupled to a control center, said remote monitoring system operable to display substantially real-time status information associated with using the piece of equipment (Col. 33, lines 53-65), wherein the status information indicates if a particular piece of equipment is fully functional or if the particular piece of equipment is inoperable (Col. 12, line 34 – Col. 13, line 59).

Beatty teaches a shop floor control system (Col. 1, lines 7-9) for filling orders for customers (Col. 43, lines 7-10; Col. 16, lines 29-67), i.e., products are produced for customer orders and products are not built-to-stock. Examiner notes applicant's definition of build-to-order products on page 2, lines 13-20 of the instant specification.

The server system of Beatty may be located in the administrative offices of the factory and connected to the factory floor via a wide area network, an intranet, the Internet, or any distributed network, therefore, examiner respectfully submits that the server system of Beatty is remotely located (Cols. 5-6 and Fig. 1).

Examiner respectfully submits that the machine status screen (Fig. 9) clearly shows the operating status of the machine (Fig. 9, element 924, i.e., machine needs lubrication) relative to a ship criteria (Fig. 9, element 970, the machine schedule portion including percentage complete, Fig. 9, element 988).

Beatty goes on to teach how the machines are connected to the shop floor control system to provide real-time status information to the relational database (Col. 33, lines 53-65).

Referring to claim 2, Beatty discloses the system above, further comprising plural pieces of equipment operably associated with a location within the manufacturing facility (Col. 44, lines 23-56).

Referring to claims 4 and 18, Beatty discloses the system above, further comprising remote access terminals within the manufacturing facility operable to provide access to the remote monitoring system (Col. 6, lines 59-65).

Referring to claim 7, Beatty discloses the system above, further comprising a process monitor operable to monitor a process that uses the piece of equipment (Col. 45, lines 10-52).

Referring to claim 9 and 16, Beatty discloses the system above, further comprising logic operable to:

- access a log to obtain information for monitoring the equipment (Col. 9, lines 16-21);
- automatically determine if an error has occurred with a piece of equipment, based on the information obtained from the log (Col. 15, lines 10-20);
- notify the control center of the error (Col. 31, lines 47-60); and
- automatically updating the displayed operating status for the piece of equipment in the control center, in response to determining that the error has occurred (See Fig. 9, element 924 above; Col. 33, lines 53-65).

Referring to claims 14 and 21, Beatty discloses the method and the medium above, further comprising logic operable to associate a process with a piece of equipment to provide a process monitor (Col. 45, lines 10-52).

Referring to claims 1, 8, and 15, Beatty teaches allocation of resources within the facility using a work-in-progress profile (Col. 20, lines 23-31 of '053).

Referring to claims 1, 8, and 15, Beatty fails to teach the system above, further comprising:

- a simulator communicatively coupled to the remote monitoring system;
- simulating an allocation of resources based on the inoperability of the one or more pieces of equipment;
- and dynamically allocating/reallocating the resources in response resources based on an error/inoperability associated with the one or more pieces of equipment.

However, referring to claims 1, 8, and 15, Dietrich teaches a system, method and computer product, for monitoring resources within a build to order manufacturing facility (Col. 6, lines 40-63; Col. 18, lines 66-68 of '593) comprising:

- a computer based system for the manufacture of customized products (Col. 18, lines 66-68 of '593);
- a simulator communicatively coupled to the system (Col. 19, lines 28-31 of '593);
- simulating an allocation of resources based on the inoperability of the one or more pieces of equipment (Col. 7, lines 35-45; Col. 19, lines 8-31 of '593);
- and dynamically allocating/reallocating the resources in response resources based on an error/inoperability associated with the one or more pieces of equipment (Col. 19, lines 32-44; Col. 7, line 67 – Col. 8, line 40; Col. 19, lines 45-68; Col. 20, line 55- Col. 21, line 12 of '593).

Dietrich teaches floor sensors determine whether or not a machine is broken (Col. 7, lines 35-45 of '593). The sensor data is supplied to a data preprocessing module that collects the data and updates it (Col. 7, lines 57-66 of '593). A model generator models the consumption of each resource by order and availability of resources supplied from the data preprocessing module (Col. 7, line 67 – Col. 8, line 2 of '593). A user interactively utilizes these results in a decision display system (Col. 8, lines 10-40 of '593). The model includes an optimization model control means that updates the model based on the user selection and generates an optimal allocation of resources based on the user selection (Col. 19, lines 48-56 of '593). The system includes shop floor control means, responsive to the optimization model control means, for generating work orders for the user selection (Col. 19, lines 57-62 of '493). The computer product includes scanning an allocation solution for inequalities and re-computing a new resource allocation solution until no inequalities are found (Col. 20, line 55 – Col. 21, line 12 of '593).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the system of Beatty to with the teachings of Dietrich.

One of ordinary skill in the art would have been motivated to combine these references because Dietrich teaches a method and apparatus which reduces computational effort in the areas of production planning logistics, scheduling, distribution and resource allocation. Furthermore, Dietrich teaches a tool to collect and assess inventory and order data, generate and evaluate a production plan, and control the execution of the plan (Col. 4, lines 47-68 of '593).

Art Unit: 2125

14. Claims 12, 13, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,336,053 to Beatty in view of U.S. Pat. No. 5,216,593 to Dietrich as applied to claims 1, 8, and 15 above, and further in view of U.S. Pat. No. 5,586,021 to Fargher.

Referring to claims 12, 13, 19, and 20, Beatty teaches allocation of resources within the facility using a work-in-progress profile, and transferring finished goods from one machine to another machine (Col. 20, lines 23-31 of '053).

Referring to claims 12 and 19, Beatty fails to disclose the method and the medium above, further comprising logic operable to automatically reallocate resources upon determining an error associated with a malfunctioning piece of equipment.

Referring to claims 13 and 20, Beatty fails to disclose the method and the medium above, further comprising the logic operable to route product to a different portion of the manufacturing facility in response to determining the error.

However, referring to claims 12, 13, 19, and 20 Fargher discloses a method and system for production planning (Title of '021), using computer integrated manufacturing software (i.e. logic) (Col. 4, lines 8-16 of '021) comprising:

A planner to input information such as the progress of lots within the shop and status of the work in progress (WIP) (Col. 4, lines 28-29; Col. 5, lines 6-12; Col. 2, lines 22-53 of '021)

The planner system may interact with a simulator in two distinct modes.

First, the planner may provide a static work release plan, generated using some initial factory status, which provides the simulator with a work release time table.

Second, the planner may provide a dynamic release plan (i.e. allocation of resources), which is updated in response to simulated events (such as machine failure, i.e. simulation based on error of equipment) during simulation execution (Col. 6, lines 54-67 of '021).

Fargher utilizes a plan representation which has been chosen to model the manufacturing environment in enough detail to achieve the planning functions, while allowing incremental updates due to replanning (i.e. reallocation of resources in response to the equipment encountering the error) (Col. 7, lines 13-18 of '021).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the system of Beatty to operate with the computer integrated manufacturing software of Fargher, because with the method of Fargher solutions which appear unpromising at an early stage in the search are quickly discarded, whereas those which appear more promising are more thoroughly searched. Another advantage is that 'disjoint' plan representations, in which no resources may be available for an extended period of time due to factory shut-down, do not prevent new work from being planned, as long as sufficient processing capacity exists within the plan representation (Col. 2, line 63 – Col. 3, line 5 of '021).

Response to Arguments

15. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., dynamic reallocation of resources) are not recited in the rejected claims 1, 2, 4, 6, and 7. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Art Unit: 2125

16. All other arguments with respect to claims 1, 2, 4, 6-9, 12-16, and 18-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (703) 305-7798. The examiner can normally be reached on Monday-Friday from 9:30am to 6:00pm.

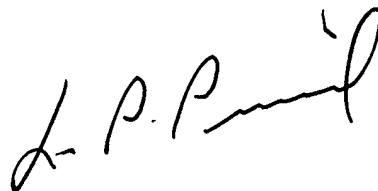
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard, can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

SPS

Sean P. Shechtman

February 5, 2004



LEO PICARD
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